

REMARKS

Claims 1-41 are pending. By this Response, claims 1, 16 and 29 are amended and claims 38-41 added. Reconsideration and allowance based on the above-amendments and following remarks are respectfully requested.

**Prior Art Rejections**

Independent Claims 1, 16, 25 and 29

The Office Action rejects claims 1-3, 5-9, 11-14, 16 and 25-36 under 35 U.S.C. §102(b) as being anticipated by Petrie, et al. (U.S. 6,419,162); claim 4 under 35 U.S.C. §103(a) as being unpatentable over Petrie in view of Bloomberg (U.S. 5,168,147) and claims 10 and 15 under 35 U.S.C. §103 as being unpatentable over Petrie in view of Hecht, et al. (U.S. 6,000,613). These rejections are respectfully traversed.

Applicant notes that page 2 of the Office Action indicates that Petrie corresponds to U.S. Patent No. 6,678,425. Applicants presume this is a mistake and that the correct patent number is U.S. 6,419,162. Applicant bases the following arguments on the '162 patent. If applicant's understanding is incorrect, applicants respectfully request clarification in the next Office Action.

Claim 1, recites, *inter alia*, a product which has a surface provided with an image in the form of a coding pattern which includes symbols representing

at least two different values, each symbol comprising a raster point and at least one marking where at least value of each symbol is indicated by displacement of the at least one marking in relation to a raster point.

Claim 16 recites, *inter alia*, a method for generating an image in the form of a coding pattern which contains symbols, each symbol comprising a raster point in at least one marking, where value of each symbol is indicated by a displacement of the at least one marking in relation to the raster point.

Claim 25 recites, *inter alia*, a method of carrying information in an image comprising employing an image made up of a plurality of markings, the markings being spaced from each other at predetermined intervals and modifying the image by slightly moving the markings from original locations to displaced locations, such that varying directions of movement from an original location reflect varying informational values.

Claim 29 recites, *inter alia*, a method of using a coding pattern to generate an image said coding pattern comprising symbols which present at least two different values each symbol comprising a raster point and at least one marking where a value of each symbol is indicated by displacement of said marking in relation to the raster point.

In each of the above independent claims, it is the displacement of the marking from a certain position that determines the value of that particular marking. In independent claims 1, 16 and 29 this is specifically recited as the

marking being displaced based upon its relation to a raster point. In claim 25, the recitation is a little different in which the value of the marking is based upon the displacement from an original location to a displaced location.

In embodiments of the present invention, virtual raster points are included in a raster which extends over a surface of an image. The position of the displacement of the markings from a respective virtual raster point determines the value of that marking. For example, as seen in Fig. 2 of the present application, whether the marking is displaced right, up, left or down of center of the center position 6 determines whether the marking represents the value 1, 2, 3 or 4.

The Office Action asserts Petrie teaches the above claimed features. Petrie is directed to a method for encoding data glyph blocks. Data glyph® is a registered trademark of Xerox Corporation and not a generic term. The data glyphs (Petrie appears to refer to “data glyphs” as “data glyph blocks”) created by Xerox are made up of tiny individual glyph elements, known as glyphs. Each glyph consists of a small 45 degree diagonal line which depending on whether the line slopes to the left or right represents a single binary zero or one. Sequences of these individual glyphs are used to encode numeric, textual or other information. The individual glyphs are grouped together on a page where they form textured gray areas, like half-tone pictures. It is the combination or sequences of the individual glyphs that form a data glyph.

The glyphs are laid down in a spaced rectangular grid. Each glyph area contains an embedded synchronization lattice or skeleton, which is a repeating, fixed pattern of glyphs which marks the boundaries of the glyphed area. Before data is placed into the synchronization frame, it is grouped into blocks of a few dozen bytes and error correcting code is added to each block. Finally, the bytes of data are randomly disbursed across the glyph area to reduce the loss of data if the media in which the glyphs are provided is damaged.

Petrie confirms the above definition of data glyphs at column 2, lines 55-67 through column 3, lines 1-55. The data glyph technology developed by Xerox is standardized and follows the same principles stated above. Therefore, any use of data glyphs within a system would follow the same principles as stated above.

Data glyph technology does not use or determine the value of a symbol based on its displacement from a raster point as claimed. To the contrary, the value of each glyph is determined based on the sloping orientation of each oblong glyph, i.e., left or right. Petrie refers to this sloping pattern in the background section, where it is stated " the glyph marks is varied, for example by making the glyph symbol (for example '/' and '\') thicker/darker or thinner/lighter." See column 1, lines 62-65. Thus, the glyph is represented by the sloped line. Petrie further verifies the glyph as "a recognizable pattern of 'on' and 'off' pixels." See column 2, lines 58-60. Therefore the pattern defined

by the “on” and “off” pixels is the sloped lined glyph. The value of that glyph being determined on the orientation of the sloped line.

Further, the glyph areas are defined by fixed patterns of glyphs and not by raster points. Petrie's use of glyphs does not deter from these teachings. Petrie describes a “regular and repeating spatial formatting rule that is selected to map the glyph encodings into a two dimensional, rectangular array of logical data blocks of predetermined size.” The spatial formatting rule caused the rendering of the glyphs onto a medium based on a pattern or as stated by Petrie a “spatial order”, not based on a displacement from a raster point, as claimed by applicant. See column 4, lines 6-16.

Thus, the recitation of at least one value of each symbol being indicated by displacement of the at least one marking in relation to a raster point as recited in independent claims 1, 16 and 29 and the recitation of modifying the image by slightly moving the markings from original locations to displaced locations, such that varying directions of movement from an original location reflect varying informational values, as recited in independent claim 25, are not taught in Petrie.

In view of the above, applicant respectfully submits that Petrie fails to teach all the claimed features of independent claims 1, 16, 25 and 29. Likewise, dependent claims 2-15, 17, 26-28 and 30-35 are distinguishable over Petrie for the above reasons. Thus, the requirements under 35 U.S.C. §102

have not been met. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Claims 18, 19, 22, 23 and 24

The Office Action rejects claims 17-24 and 37 under 35 U.S.C. §103(a) as being unpatentable over Petrie in view of Jackson, et al. (U.S. 5,864,127). This rejection is respectfully traversed.

Claim 18 recites a method for reading a coding pattern which is located in an image and which comprises symbols wherein the symbols represent at least two different values, each symbol comprising a raster point and at least one marking where a value of each symbol being indicated by a placement of at least one marking in relation to the raster point the method comprising determining markings which at least partially overlap one another and reading for each overlapped marking at least one contrasting indicator.

Claim 19 recites, *inter alia*, an apparatus for reading a coding pattern which is located in a image and which comprises symbols, wherein the symbols represent at least two different values, each symbol comprising a raster point and at least one marking the value of each symbol being indicated by a placement of the at least one marking in relation to the raster point, the apparatus comprising means for determining markings which at least partially overlap one another and means for reading at least one contrasting indicator.

Claim 22 recites, *inter alia*, a method for reading a coding pattern located in an image comprised of a plurality of symbols the method comprising detecting a symbol in the plurality of symbols, each symbol being defined by a raster point and at least one marking, determining a value of the symbol where the value is defined by a special relationship between the marking and raster point, identifying markings that at least partially overlap, determining at least one contrasting indicator for each overlapping marking and determining a location of the marking based on the at least one contrasting indicator.

Claim 23, recites, *inter alia*, a system for reading a coding pattern contained within an image having a plurality of symbols residing on a surface of a product, the system comprising an apparatus configured to detect a symbol in the plurality of symbols, each defined by a raster point and at least one marking and image processor configured to identify markings that at least partially overlap one another and determine at least one contrasting indicator for each overlapping markings, determine a location of the marking based on the contrasting indicator and determine a value of the symbol, wherein the value is at least defined by the location of at least one marking with respect to at least one raster point.

Claim 24 recites, *inter alia*, a computer readable medium containing instructions that when executed perform a method for reading a coding pattern located in an image comprised of a plurality of symbols the method comprising

detecting a symbol in a plurality of symbols, each symbol defined by a raster point and at least one marking, identifying markings that at least partially overlap one another, determining a location of at least one marking based on the contrasting indicator and determining the value of the symbol, wherein the value is at least defined by the location of the at least one marking with respect to the raster point.

Each of independent claims 18, 19 and 22-24 recite the markings at least partially overlapping one another. The Office Action alleges that Jackson provides this feature absent in Petrie. Applicant respectfully disagrees.

Jackson as illustrated in Fig. 1 demonstrates the creation of the individual glyph. Each pixel array 10 contains a number of dots that when combined create the glyph. Thus, it is the combination of dots that represents the glyph. The individual dots do not represent the glyph. The individual dots in the glyph do not represent any type of value. Only the combination of the entirety of the dots represent a recognizable value. See column 3, lines 35-54 and Fig. 1.

Each of the above noted independent claims define a value based upon a marking. Further, each of the independent claims recite that it is the markings that at least partially overlap one another. Jackson fails to teach or suggest this particular feature of the claims. The glyphs in Jackson do not overlap each other in any manner. In fact, if the glyphs did overlap each other, the data



glyph system could not recognize the value of the glyphs. It is only the individual dots, which by themselves represent no value, that overlap one another to form a combination of dots to represent a single glyph and thus a single value.

Further, neither Petrie nor Jackson teach or suggest reading for each overlapping marking at least one contrasting indicator as recited in claims 17 and 19 nor do Petrie and Jackson teach or suggest at least one contrasting indicator for each overlapping marking as recited in claims 22, 23 and 24. In fact, this particular feature is not even addressed in the Office Action.

Thus, in view of the above, applicant respectfully submits that the combination of Jackson and Petrie fail to teach each and every feature of independent claims 18, 19 and 22 through 24. Likewise, dependent claims 20, 21 and 37 are also distinguishable over the cited references for the above reasons. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

### Conclusion

For at least these reasons, it is respectfully submitted that claims 1-41 are distinguishable over the cited art. Favorable consideration and prompt allowance are earnestly solicited.


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings (Reg. No. 48,917) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant respectfully petitions for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  # 39,491  
Michael K. Mutter, #29,680

MKM/CJB  
3782-0128P

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

Attachment(s)